



Online Cancer Education for Health Care Providers

Grant Number: R44CA78056-03

Abbreviated Abstract

This Phase II project will develop three online continuing medical education (CME) programs for physicians to improve their ability to implement cancer screening and prevention strategies. These programs will focus on skin, breast, and prostate cancer. We will test these programs via the Internet for physician acceptability, increases in confidence, knowledge, and clinical skills. Following the initial testing, we will implement them in a large California Individual Practice Association (IPA) and test them for actual improvement in physician performance with a randomized controlled trial.

Primary Investigator

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Dr. John M. (Skip) Harris Jr., is the President of Medical Directions Inc (MDI). MDI is a developer and publisher of online education programs used by health professionals. Dr. Harris is an internist and recognized expert in medical education. He previously served as a Medical Director and senior executive in national managed care organizations, including CIGNA Healthcare (Northern California, Seattle, and Tucson) and Wellpoint Health Networks (Woodland Hills). Before entering full-time medical education and management, he practiced internal medicine with the Palo Alto Medical Foundation and the US Army. He has authored numerous peer-reviewed publications on medical education, managed care, disease management and the use of diagnostic tests.

Research Team & Affiliations

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Total Budget

\$777,208.00

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Research Objectives

Aim 1: Develop three online continuing medical education (CME) programs for physicians to improve their ability to implement cancer screening and prevention strategies.

Aim 2: Test these programs via the Internet for physician acceptability and increases in confidence, knowledge, and clinical skills.

Aim 3: Test the courses for actual improvement in physician performance by combining the CME programs with an online disease management system and data obtained from patient surveys.

Theory/Hypothesis

1. Physicians who utilized the online CME programs would have favorable changes in cancer screening and prevention knowledge and beliefs compared to physicians who did not utilize the online CME.
2. A patient survey would show greater behavior changes in the patients of those physicians who had participated in the online CME programs.

Experimental Design

Pretest/posttest comparison of physician cancer screening knowledge and practices, pretest/posttest comparison of patient reported cancer screening behaviors

Final Sample Size & Study Demographics

97 physicians (51.1% male, mean age 40.1, 50.0% white); 11,631 patients (40.5% male, mean age = 56.2, 69.4% white)

Data Collection Methods

Self-reported survey

Outcome Measures

Changes in knowledge and cancer screening practices

Evaluation Methods

Comparison of mean responses.

Research Results

Physicians showed significant improvement in cancer screening knowledge and self-reported behaviors following use of the online CME programs. Physicians were very pleased with programs (percentage of physicians rating programs good or excellent was 98.6% for skin cancer, 92.6% for breast cancer, and 83.4% for prostate cancer).



We analyzed patient survey data using univariate and multivariate techniques. Major findings included the following:

- **Breast Cancer** - Even though this insured population regularly used health care services, 21% of women in the high-risk group and >37% in the moderate-risk group reported not receiving a mammogram within the previous 2 years; Black/African American patient respondents who received a physician's recommendation to have a mammogram were significantly less likely than White, non-Hispanic women to report having a timely mammogram (adjusted OR = 0.36, 95% CI = 0.19-0.70).
- **Prostate Cancer** - A majority of men in the moderate and high-risk groups (72%, 1,974/2,740) reported that their physician had recommended a PSA test in the last 12 months; however, 39% of the patient respondents in the moderate-risk group (643/1,656) did not report receiving such a recommendation. As we found for breast cancer, Black/African American patient respondents who received a physician's recommendation to have a PSA test were significantly less likely than White, non-Hispanic patient respondents to report having a timely PSA test (adjusted OR = 0.32, 95% CI = 0.12-0.89).
- **Skin Cancer** - The majority of patient respondents in the high and moderate-risk groups reported using sun protection often to always; however, >35% in both groups reported only using sun protection sometimes or never. More than 80% and >65% of the patient respondents in the moderate and high-risk groups, respectively, reported that their physicians had not recommended sun protection use in the last 12 months

Barriers & Solutions

The study had unanticipated difficulties in obtaining physician participants from the contracted independent practice association (SCCIPA). This made linking physician education results and patient reports impossible, thus precluding completion of Aim 3 (Theory 2). We used multiple techniques to enhance participation from other community physicians, which allowed us to fully complete Aim 2.

Product(s) Developed from This Research

Online Continuing Medical Education